

A METHOD OF SAMPLING SHORE BEETLES¹

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During a recent study (Holeski & Graves, 1978) of some shore inhabiting beetles (Carabidae, Heteroceridae, Staphylinidae) it was desirable to have a method of determining the number of adult individuals in a given area. Knowing the number of individuals of each species taken from a constant area several times over the season of activity could be useful in determining such information as population peaks of individual species and numbers relationships among the various species present.

A frame of bar iron and hardware cloth (Figure 1) was constructed to measure 0.092² meters (1² foot). Samples were taken by walking in the water along the shore and randomly dropping the frame onto the shore. The frame was heavy and sharp enough to slightly penetrate the soil surface. Insects running over the soil surface were hand captured and then water was poured into the frame to force those beetles not on the surface to emerge

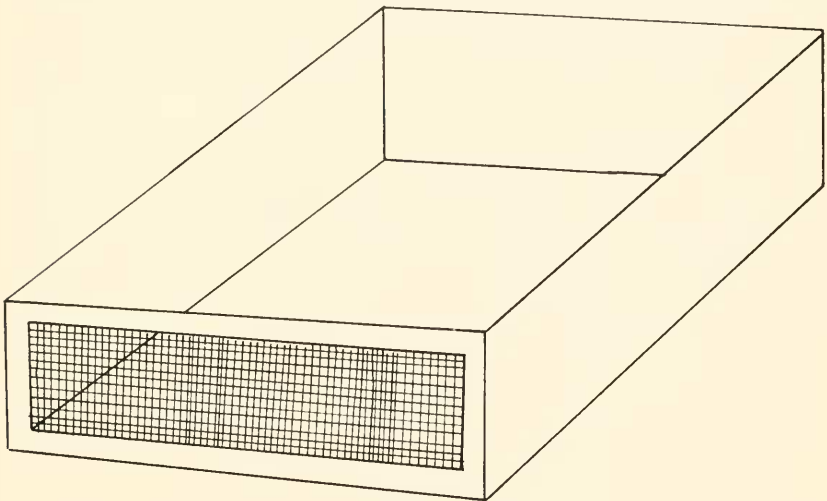


Figure 1. A frame constructed of bar iron and hardware cloth and used to sample shore beetles. Dimensions are 30.5 x 30.5 x 7.6 centimeters (12 x 12 x 3 inches).

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from cracks and burrows. Excess water escaped through the screen side of the frame. As most of the shore beetles do not readily take flight, or at least attempt to escape by running or hiding before taking flight, this method of sampling allowed the capture of most of the individuals within the area of the frame. Some escape did occur by flight or crawling over the sides of the frame when an unusually large number of individuals were within the frame and could not be hand picked rapidly enough. This problem could be remedied by constructing a frame of smaller dimensions. Overall, this method appears to be a simple and satisfactory way of quantitatively sampling shore beetle populations.

BIBLIOGRAPHY

- Holeski, P.M. and R.C. Graves. 1978. An analysis of the shore beetle communities of some channelized streams in northwest Ohio (Coleoptera). *Great Lakes Entomologist* 11: 23-36.